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Novel effectively carbonaceous and sulfurated hydrogen corrosion inhibitors on the basis of organosulfurphosphorus compounds

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Abstract

Novel ammonium salts of O,O-dialkyl dithiophosphoric acids were obtained by one-pot synthesis from white phosphorus, elemental sulfur, industrial alcohols or phenols, and amines. Long-chain S-alkyl O,O-dialkyldithiophosphonates were prepared by the reaction of red phosphorus with elemental sulfur, alcohols, and the cheap industrial fractions of C16-C18 and C 20-C26 of higher α-olefins in the presence of Lewis acid catalyst. The dithiophosphates obtained possess the high anticorrosion activities toward mild steel.

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Keywords

alcohols, amines, dithiophosphates, higher α -olefins, sulfur, White and red phosphorus